

REMARKS

The Office Action dated August 14, 2008 has been received and carefully studied.

The Examiner maintains the rejection of claims 1-7 under 35 U.S.C. §102(a) as being anticipated by Tanabe et al., JP2003146810. The Examiner states that the inventorship of JP '810 is different from the inventorship in the present case, because while Satoshi Tanabe is the inventor in the present case, Tomotsugu Tarabe is the inventor in JP '810.

The rejection is respectfully traversed.

The inventorship shown in the English Abstract of JP '810 is incorrect in listing Tanabe Tomotsugu and Totani Tetsuya as inventors. As can be seen from the front page of WO 2005/102050 A1 (PCT/JP2004/005768), through which the present US application was filed, the inventors of the present application are as follows:

田辺 知嗣 (Satoshi TANABE) ;
堀田 博樹 (Hiroki HOTTA) ;
戸谷 哲也 (Tetsuya TOYA) ; and
細田 勝彦 (Katsuhiko HOSODA) .

A copy of the front page of WO 2005/102050 A1 (PCT/JP2004/005768) is attached hereto.

As can be seen from the front page of original JP '810 in the Japanese language, a copy of which is attached hereto, the inventors of JP '810 are as follows:

田辺 知嗣;
堀田 博樹;
戸谷 哲也; and
細田 勝彦.

Therefore, the four inventors of the present application, which are expressed in terms of Chinese characters, i.e., Japanese language, are exactly the same as the four inventors of JP '810, which are also expressed in terms of Chinese characters.

In view of the foregoing, it is clear that the inventorship of JP '810 is the same as the inventorship of the present application, and JP '810 is not prior art against this case.

The Examiner maintains the rejection of claims 1-5 and 7 (and now also rejects new claim 9) under 35 U.S.C. §102(b) as being anticipated by Hotta et al., JP '935. The Examiner also rejects claims 1-9 under 35 U.S.C. §103(a) as being unpatentable over Hotta et al. The Examiner points out that paragraph [0029] of Hotta et al. teaches that the N-substituted indoles of formula (1) are useful in controlling fleas, namely rat flea and dog flea.

By the accompanying amendment, claim 1 has been amended by incorporating therein the limitations of claim 3.

As seen from the amended claim 1, the claimed invention relates to a flea control agent containing as an active ingredient an N-substituted indole derivative of formula (I) wherein X is N or C-Cl; Y is a C1-C3 alkyl group substituted by a halogen atom(s); R1 is a C1-C3 alkyl group substituted by a halogen atom(s); R2, R3 and R4 are independently a hydrogen atom, a C1-C3 alkyl group optionally substituted by a halogen atom(s), or a halogen atom; m is 0, 1 or 2; and n is 1. Thus, the claimed invention uses the extremely limited N-substituted indole derivative of formula (I), which is fully supported by Compounds 14, 17 and 25 listed in Table 1 and used in Test Examples 1 and 2 of the present specification. Compounds 14, 17 and 25 are specifically recited in the instant claim 4.

The data of Test Examples 1 and 2 demonstrate that Compounds 14, 17 and 25 have low toxicity to mouse and cat, while these compounds have high insecticidal activity against cat flea as demonstrated in Examples 4 and 5 of the present specification.

In the meantime, the inventions of claims 6 to 9 relate to a shampoo or rinse for controlling fleas or a percutaneous preparation comprising liquid drops for controlling fleas, which

use the extremely limited N-substituted indole derivative of formula (I) as discussed above.

Hotta et al. neither teach nor suggest that the N-substituted indole derivatives of formula (I) recited in amended claim 1 have low toxicity to mouse and cat, while they have high insecticidal activity against flea. Hotta et al. teach at paragraphs [0017] to [0019] that the indole derivatives can be mixed with a liquid carrier, an emulsifier, a dispersant, or a disintegrator among other excipients.

However, Hotta et al. describe at paragraphs [0016] to [0017] that the indole can be mixed with agricultural-chemicals adjuvants such as a liquid carrier, an emulsifier, a dispersant, a disintegrator and the like. Thus, Hotta et al. teach that a liquid carrier, an emulsifier, a dispersant, a disintegrator and the like are used as agricultural-chemicals adjuvants.

On the other hand, the shampoo or rinse or the percutaneous preparation comprising liquid drops as claimed in claims 6-9 are used for controlling fleas. Therefore, the inventions of claims 6-9 are fundamentally different from the teachings of Hotta et al. at paragraphs [0016] to [0019].

Furthermore, Hotta et al. neither teach nor suggest the use of the N-substituted indole derivatives of formula (I) recited in amended claim 1 and having low toxicity to mouse and cat, while having high insecticidal activity against flea.

Reconsideration and allowance are respectfully requested in view of the foregoing.

Respectfully submitted,

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(84) 指定国(表示のない限り、全ての種類の広域保護が可能): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), ユーラシア (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), ヨーロッパ (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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(54) Title: FLEA CONTROL AGENT CONTAINING N-SUBSTITUTED INDOLE DERIVATIVE

(54) 発明の名称: N置換インドール誘導体を含有するノミ防除剤

(57) Abstract: Conventional control agents against fleas parasitic on animals do not have sufficient selective toxicity and are hence not safe for the animals to which the control agents are applied. The control agents are not always satisfactory also in control effect and quick-acting properties. Intensive studies were made on the insecticidal activity of N-substituted indole compounds against fleas and on the safety thereof for mammals including pets. As a result, it was found that an N-substituted indole derivative, e.g., 1-(3-chloro-5-trifluoromethylpyridin-2-yl)-3-(dichlorofluoromethylthio)indole, 1-(2,6-dichloro-4-trifluoromethylphenyl)-3-(dichlorofluoromethylthio)indole, or 1-(2,6-dichloro-4-trifluoromethylphenyl)-3-(trifluoromethylthio)indole, has high insecticidal activity and quick-acting properties and is lowly toxic to mammals including pets.

WO 2005/102050 A1

(57) 要約: 従来の動物に寄生するノミの防除剤は、適用生物に対して十分な選択性に基づく安全性を提供しているとは言えず、又その防除効果及び即効性の面に於いても必ずしも満足できるものではない。N置換インドール化合物のノミに対する殺虫活性、及びペットを含む哺乳動物に対する安全性について鋭意検討を重ねた結果、N置換インドール誘導体、例えば1-(3-クロロ-5-トリフルオロメチルビリジン-2-イル)-3-(ジクロロフルオロメチルチオ)インドール、1-(2,6-ジクロロ-4-トリフルオロメチルフェニル)-3-(ジクロロフルオロメチルチオ)インドール又は1-(2,6-ジクロロ-4-トリフルオロメチルフェニル)-3-(トリフルオロメチルチオ)インドールが高い殺虫活性と即効性を示し、更にペットを含む哺乳類に対して毒性が低いことを見出した。

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(54)【発明の名称】N置換インドール誘導体を含有するノミ防除剤

(57)【要約】

【課題】従来の動物に寄生するノミの防除剤は、適用生物に対して十分な選択性に基づく安全性を提供しているとは言えず、又その防除効果及び即効性の面に於いても必ずしも満足できるものではない

【解決手段】N置換インドール化合物のノミに対する殺虫活性、及びペットを含む哺乳動物に対する安全性について鋭意検討を重ねた結果、N置換インドール誘導体、例えば1-(3-クロロ-5-トリフルオロメチルピリジン-2-イル)-3-(ジクロロフルオロメチルチオ)インドール、1-(2,6-ジクロロ-4-トリフルオロメチルフェニル)-3-(ジクロロフルオロメチルチオ)インドール又は1-(2,6-ジクロロ-4-トリフルオロメチルフェニル)-3-(トリフルオロメチルチオ)インドールが高い殺虫活性と即効性を示し、更にペットを含む哺乳類に対して毒性が低いことを見出した。